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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/047,320	03/24/1998	RAYMOND LI	0100.01142	3118

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ADVANCED MICRO DEVICES, INC.  
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CHICAGO, IL 60601

EXAMINER
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NGUYEN, HAU H

ART UNIT	PAPER NUMBER
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2628

MAIL DATE	DELIVERY MODE
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08/06/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

**Office Action Summary**

Application No.

09/047,320

Applicant(s)

LI, RAYMOND

Examiner

Hau H. Nguyen

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 23 May 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### DETAILED ACTION

1. The response filed on May 23, 2007 has been fully considered in preparing for this Office Action.

#### *Claim Rejections - 35 USC § 102*

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

3. Claims 1-3, 6-23 are rejected under 35 U.S.C. 102(e) as being anticipated by Swanstrom et al. (U.S. Patent No. 5,872,942).

As per claim 1, Swanstrom et al. teach a video graphics and audio processing circuit comprising a graphics processing circuit; an audio processing circuit (one of the multimedia devices 142A-146A, Fig. 7);

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a local bus (bus 130) operative to receive incoming data from a system bus and operably coupled to transceive data to and from the graphics processing circuit and the audio processing circuit (Figs. 7 and 10);

a bus arbitrator (504, Fig. 7, or 614, Fig. 10) operably couple to the local bus, the graphics processing circuit, and the audio processing circuit, wherein the bus arbitrator interprets the incoming data and provide the incoming data to the audio processing circuit or to the video graphics processing circuit, and wherein the bus arbitrator arbitrates outputting data on the local bus from the graphics processing circuit and the audio processing circuit (col. 14, lines 35-42, col. 17, lines 29-49, and col. 18, lines 21-31).

In regard to claim 2, Swanstrom et al. teach the bus arbitrator comprises an address decoder operably coupled to receive an address via the bus, to route received data to the audio processing circuit when the address identifies the audio processing circuit and to route received data to the graphics processing circuit when the address identifies the graphics processing circuit (Fig. 9B, col. 15, lines 54-67).

In regard to claim 3, Swanstrom et al. also teach the address decoder comprises control circuitry that generates an output data control signal based on the address and a data command signal (col. 16, lines 29-60, e.g. setting the transfer flag).

Claims 6-23, which are similar in scope to claims 1-3, are thus rejected under the same rationale.

#### ***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claim 24 is rejected under 35 U.S.C. 102(e) as being anticipated by Swanstrom et al.

(U.S. Patent No. 5,872,942).

As per claim 24, although Swanstrom does not explicitly teach the graphics processing unit, the audio processing unit, and the bus arbitrator are configured on a single chip, it would have been obvious to one skilled in the art to integrate all these components into a single chip since by doing so, the circuit can be more compact, and less bus wiring.

6. Claims 4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Swanstrom et al. (U.S. Patent No. 5,872,942) in view of Post (U.S. Patent No. 6,546,426).

Referring to claims 4 and 5, although Swanstrom et al. did not disclose an output data switch comprising an audio buffer and a graphics buffer to output data based on the output data control signal, this is what Post teaches. As shown in Figs. 1 and 2, Post teaches a method of parsing audio and video packets to the respective audio and video decoder, and also teaches an audio and video buffer to output corresponding data (Fig. 1C, col. 3, lines 40-53).

Therefore, it would have been obvious to one skilled in the art to utilize the method as taught by Post in combination with the method as taught by Swanstrom et al. in order to provide an efficient method for processing multimedia streams.

### ***Response to Arguments***

7. Applicant's arguments filed May 23, 2007 have been fully considered but they are not persuasive. In response to Applicant's argument that the cited reference Swanstrom does not

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teach the local bus 130 operative to receive incoming data from the system bus 120, the examiner disagrees. As shown in Fig. 2, Swanstrom teach

“...the multimedia devices 142-146 each include interface logic 170 which includes *PCI interface logic 172 and which also includes multimedia bus interface logic 174*. In one embodiment of the invention, the interface logic 170 in each of the multimedia devices 142-146 *uses the PCI bus 120 for addressing and control for transfers on the multimedia bus 130* (col. 9, lines 21-28) (emphasis added).

As shown in Fig. 3A, Swanstrom also teach

“...When a multimedia device such as device 142 desires to perform a transfer, in step 302 the PCI interface logic 172 in the transferring device transfers control information on the PCI bus 120 to set up the transfer. This involves *providing an address indicating the destination address of the transfer* as well as control and status information regarding the length of the transfer, among other status information...

...Once the transfer has been set up on the PCI bus 120 in step 302, then in step 304 the transferring device performs the data transfer on the multimedia bus 130 to the receiving or target device.” (col. 9, lines 35-59) (emphasis added).

Thus, clearly from the cited portion above, Swanstrom teach the local bus 130, not only in communication with the system bus 120, but also receiving information from the system bus 120 to transfer data onto the local bus 130 to the desired target multimedia device. In one embodiment as shown in Fig. 7, Swanstrom teach an arbitrator (arbitration logic 504) *to perform arbitration for the devices 142A-146A on the bus 130, ... the multimedia device 142A-146A provide request signals on the control channel 502 to the arbitration logic 504, and the arbitration logic 504 grants bus access according to a desired arbitration method* (col. 14, lines 35-42).

Since one of the multimedia devices can be a graphics accelerator, and another multimedia can be a sound card (col. 14, lines 17-22), and the arbitrator 504, as discussed above, *interpreting the incoming data and provide the incoming data to the audio processing circuit or*

*to the video graphics processing circuit, and wherein the bus arbitrator arbitrates outputting data on the local bus from the graphics processing circuit and the audio processing circuit.*

Also in the above discussion, Swanstrom teach *providing an address indicating the destination address of the transfer* to the received or target device, and the arbitrator 504 arbitrating access on the local bus 130 to the one of the target device, which can be either the graphics processing unit or the audio processing unit 142A-146A, based on the provided address. Thus, the destination address is inherently used to identify which one of the target multimedia devices (graphics or audio processing units) will receive and process the transferred data.

Regarding arguments on claims 4 and 5, Post teach the parser 152 (a multiplexor) coupled to the video buffer 154 and audio buffer 156 to output the video output data or audio output data based on the output data control signal (i.e. from the source 150).

For at least the reasons above, Swanstrom and Post references meet the minimum requirements of the claims. Therefore, the rejection is maintained.

### ***Conclusion***

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

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CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hau H. Nguyen whose telephone number is: 571-272-7787. The examiner can normally be reached on MON-FRI from 8:30-5:30.

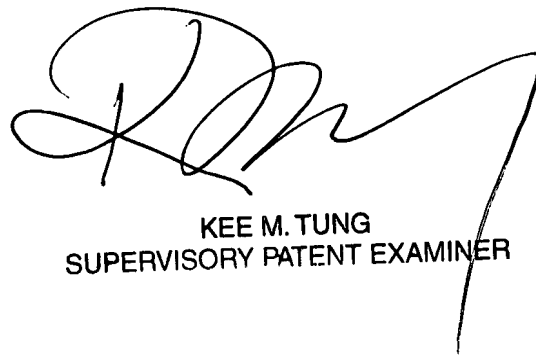
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kee Tung can be reached on (571) 272-7794.

The fax number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system contact the Electronic Business Center (EBC) at 866-2 17-9197 (toll-free).

H. Nguyen

8/2/2007



KEE M. TUNG  
SUPERVISORY PATENT EXAMINER